

WHAT IS CLAIMED IS:

1. A gasoline additive for reducing a pollutant emission, the additive comprising:

a plant oil extract;  
an antioxidant; and  
a thermal stabilizer.

2. The gasoline additive of claim 1, wherein the plant oil extract comprises an oil extract of a plant of the *Leguminosae* family.

3. The gasoline additive of claim 1, wherein the plant oil extract is selected from the group consisting of oil extract of vetch and oil extract of barley.

4. The gasoline additive of claim 1, wherein the plant oil extract comprises chlorophyll.

5. The gasoline additive of claim 1, wherein the antioxidant comprises  $\beta$ -carotene.

6. The gasoline additive of claim 1, wherein the thermal stabilizer comprises jojoba oil.

7. The gasoline additive of claim 1, wherein the thermal stabilizer comprises an ester of a C20-C22 straight chain monounsaturated carboxylic acid.

8. The gasoline additive of claim 1, wherein the plant oil extract comprises oil extract of vetch, wherein the antioxidant comprises  $\beta$ -carotene, and wherein the thermal stabilizer comprises jojoba oil.

9. The gasoline additive of claim 1, further comprising a diluent.

10. The gasoline additive of claim 9, wherein the diluent is selected from the group consisting of toluene, gasoline, diesel fuel, jet fuel, and mixtures thereof.

11. The gasoline additive of claim 1, further comprising an oxygenate.

12. The gasoline additive of claim 11, wherein the oxygenate is selected from the group consisting of methanol, ethanol, methyl tertiary butyl ether, ethyl tertiary butyl ether, and tertiary amyl methyl ether, and mixtures thereof.

13. The gasoline additive of claim 1, further comprising at least one additional additive selected from the group consisting of octane improvers, detergents, corrosion inhibitors, metal deactivators, ignition accelerators, dispersants, anti-knock

additives, anti-run-on additives, anti-pre-ignition additives, anti-misfire additives, antiwear additives, antioxidants, demulsifiers, carrier fluids, solvents, fuel economy additives, emission reduction additives, lubricity improvers, and mixtures thereof.

5 14. The gasoline additive of claim 8, wherein a ratio of grams of plant oil extract of vetch to grams of  $\beta$ -carotene in the additive is from about 50:1 to about 0.5:1, wherein a ratio of grams of oil extract of vetch to milliliters jojoba oil in the additive is from about 10:1 to about 0.5:1, and wherein a ratio of milliliters jojoba oil to grams of  $\beta$ -carotene in the additive is from about 10:1 to about 0.5:1.

10 15. The gasoline additive of claim 8, wherein a ratio of grams of plant oil extract of vetch to grams of  $\beta$ -carotene in the additive is from about 24.2:1 to about 1.2:1, wherein a ratio of grams of oil extract of vetch to milliliters jojoba oil in the additive is from about 4:1 to about 1:1, and wherein a ratio of milliliters jojoba oil to grams of  $\beta$ -carotene in the additive is from about 6:1 to about 1.3:1.

15 16. The gasoline additive of claim 8, wherein a ratio of grams of plant oil extract of vetch to grams of  $\beta$ -carotene in the additive is from about 24.2:1 to about 7.3:1, wherein a ratio of grams of oil extract of vetch to milliliters jojoba oil in the additive is from about 4:1 to about 2.9:1, and wherein a ratio of milliliters jojoba oil to grams of  $\beta$ -carotene in the additive is from about 6.0:1 to about 2.5:1.

20 17. The gasoline additive of claim 8, wherein a ratio of grams of plant oil extract of vetch to grams of  $\beta$ -carotene in the additive is about 24.2:1, wherein a ratio of grams of oil extract of vetch to milliliters jojoba oil in the additive is about 4.0:1, and wherein a ratio of milliliters jojoba oil to grams of  $\beta$ -carotene in the additive is about 6.0:1.

25 18. The gasoline additive of claim 8, wherein a ratio of grams of plant oil extract of vetch to grams of  $\beta$ -carotene in the additive is about 7.3:1, wherein a ratio of grams of oil extract of vetch to milliliters jojoba oil in the additive is about 2.9:1, and wherein a ratio of milliliters jojoba oil to grams of  $\beta$ -carotene in the additive is about 2.5:1.

30 19. The gasoline additive of claim 8, wherein a ratio of grams of plant oil extract of vetch to grams of  $\beta$ -carotene in the additive is about 21.8:1, wherein a ratio of grams of oil extract of vetch to milliliters jojoba oil in the additive is about 4.0:1, and

wherein a ratio of milliliters jojoba oil to grams of  $\beta$ -carotene in the additive is about 5.5:1.

20. The gasoline additive of claim 8, wherein a ratio of grams of plant oil extract of vetch to grams of  $\beta$ -carotene in the additive is from about 4.8:1 to about 1.2:1, wherein a ratio of grams of oil extract of vetch to milliliters jojoba oil in the additive is from about 2.4:1 to about 1.0:1, and wherein a ratio of milliliters jojoba oil to grams of  $\beta$ -carotene in the additive is from about 2.0:1 to about 1.3:1.

21. The gasoline additive of claim 8, wherein a ratio of grams of plant oil extract of vetch to grams of  $\beta$ -carotene in the additive is about 4.8:1, wherein a ratio of grams of oil extract of vetch to milliliters jojoba oil in the additive is about 2.4:1, and wherein a ratio of milliliters jojoba oil to grams of  $\beta$ -carotene in the additive is about 2.0:1.

22. The gasoline additive of claim 8, wherein a ratio of grams of plant oil extract of vetch to grams of  $\beta$ -carotene in the additive is about 1.2:1, wherein a ratio of grams of oil extract of vetch to milliliters jojoba oil in the additive is about 1.0:1, and wherein a ratio of milliliters jojoba oil to grams of  $\beta$ -carotene in the additive is about 1.3:1.

23. The gasoline additive of claim 8, wherein a ratio of grams of plant oil extract of vetch to grams of  $\beta$ -carotene in the additive is about 3.5:1, wherein a ratio of grams of oil extract of vetch to milliliters jojoba oil in the additive is about 2.0:1, and wherein a ratio of milliliters jojoba oil to grams of  $\beta$ -carotene in the additive is about 1.7:1.

24. The gasoline additive of claim 8, wherein the additive comprises a first component and a second component, wherein the first component comprises jojoba oil and  $\beta$ -carotene, and wherein the second component comprises jojoba oil and oil extract of vetch.

25. The gasoline additive of claim 8, wherein the additive comprises a first component and a second component, wherein the first component comprises about 4 ml jojoba oil per 3785 ml of the first component and about 4 g  $\beta$ -carotene per 3785 ml of the first component, and wherein the second component comprises about 4 ml jojoba oil

per 3785 ml of the second component and about 19.36 g oil extract of vetch per 3785 ml of the second component.

5        26.     The gasoline additive of claim 8, wherein the additive comprises a first component and a second component, wherein the first component comprises about 32 ml jojoba oil per 3785 ml of the first component and about 32 g  $\beta$ -carotene per 3785 ml of the first component, and wherein the second component comprises from about 32 ml jojoba oil per 3785 ml of the second component and about 155 g oil extract of vetch per 3785 ml of the second component.

10       27.     The gasoline additive of claim 1, wherein the additive is a reformulated gasoline additive.

      28.     The gasoline additive of claim 1, wherein the additive is a CaRFG3 gasoline additive.